

$H(d) = 3d + 5$
 $H(d) = 4d + 1$
 $d, H(d)$
 $(2, 14)$
 same height 14cm
 in 2 days
 $(1.5, 6)$

$y = 7x + 2$
 $3y = 6x + 1$
 $3(7x + 2) = 6x + 1$
 $21x + 6 = 6x + 1$
 $-6x \quad -6x$
 $15x + 6 = 1$
 $-6 - 6$
 $15x = -5$
 $\frac{15x}{15} = \frac{-5}{15}$
 $x = -\frac{1}{3}$

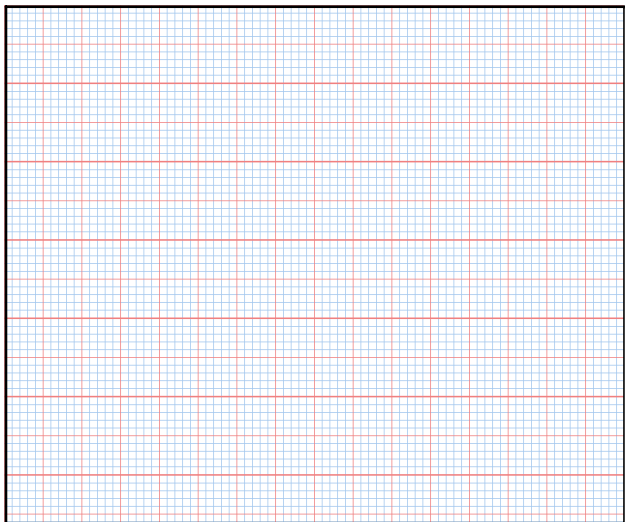
$y = 7(-\frac{1}{3}) + 2$
 $y = -\frac{7}{3} + 2$
 $y = -\frac{7}{3} + \frac{6}{3}$
 $y = -\frac{1}{3}$
 $(-\frac{1}{3}, -\frac{1}{3})$

$$\begin{aligned}
 2x &= 5y - 1 \\
 y &= 8x + 3 \\
 2x &= 5(8x + 3) - 1 \\
 2x &= 40x + 15 - 1 \\
 -40x & \quad -40x \\
 -38x &= 14 \\
 x &= \frac{14}{-38} = \frac{-7}{19} \\
 y &= 8\left(\frac{-7}{19}\right) + 3 \\
 y &= \frac{-56}{19} + \frac{57}{19} \\
 y &= \frac{1}{19} \\
 \left(\frac{-7}{19}, \frac{1}{19}\right) & \quad \frac{2}{57}
 \end{aligned}$$

$$\begin{aligned}
 8. \quad y &= -4x + 12 \frac{1}{2} \\
 y &= -4x + 4 \\
 4(-4x + 12 \frac{1}{2}) &= (-4x + 4)4 \\
 -16x + 50 &= -16x + 16 \\
 -16x + 50 & \quad -16x + 16 \\
 -16x &= -34 \\
 \frac{-16x}{-16} &= \frac{-34}{-16} \\
 x &= 2 \\
 y &= -4(2) + 12 \frac{1}{2} \\
 y &= -8 + 12 \frac{1}{2} \\
 y &= 4 \frac{1}{2} \\
 (2, 4 \frac{1}{2})
 \end{aligned}$$

$$\begin{aligned}
 3x - 6y &= 30 \\
 y &= -6x + 34 \\
 3x - 6(-6x + 34) &= 30 \\
 3x + 36x - 204 &= 30 \\
 39x - 204 &= 30 \\
 +204 & \quad +204 \\
 \hline
 39x &= 234 \\
 \frac{39x}{39} &= \frac{234}{39} = \frac{78}{13} \\
 x &= \frac{78}{13} = 6 \\
 y &= -6\left(\frac{78}{13}\right) + 34 \\
 y &= \frac{-468}{13} + \frac{442}{13} \\
 \frac{-468}{13} & \quad \frac{442}{13} \\
 \hline
 \frac{-26}{13} &= -2 \\
 (6, -2)
 \end{aligned}$$

$$\begin{aligned}
 17. \quad l &= 5 + 2w \\
 P &= 34 \text{ cm} \\
 P &= 2l + 2w \\
 34 &= 2l + 2w \\
 l &= 5 + 2w \\
 34 &= 2(5 + 2w) + 2w \\
 34 &= 10 + 4w + 2w \\
 34 &= 10 + 6w \\
 24 &= 6w \\
 \frac{24}{6} &= w \\
 w &= 4 \\
 l &= 5 + 2(4) = 13
 \end{aligned}$$



25% ingot + 50% ingot
 Let x = mass of 25% Ingot Let y = mass of the 50% ingot

45%
40 kg

mass
 $x + y = 40$
 $-y$
 $x = 40 - y$

percentages
 $100(.25x + .5y = .45(40))$
 $25x + 50y = 45(40)$
 $25x + 50y = 1800$
 $\frac{25}{25} \quad \frac{50}{25}$
 $x + 2y = 72$

$(40 - y) + 2y = 72$
 $40 + y = 72$
 $y = 32$ 32 kg of the 50% ingot
 8 kg of the 25% ingot

Break-even

<u>Expenses</u>	<u>Income</u>
$\$.35/\text{copy}$	$\$.55/\text{copy}$
$\$770$ research and writing	

Let x = # of copies

Let y = amount of money (\$)

Expenses Income
 $y = .35x + 770$ $y = .55x$

$$\begin{array}{rcl}
 (.35x + 770 = .55x) & \cdot 100 & \\
 35x + 77,000 = 55x & & \\
 -35x & -35x & \\
 \hline
 77,000 = 20x & & \\
 3,850 & = & x
 \end{array}$$

3,850
copies

$3850 = x$

p. 399 #1:

a. $4a + 5b = 6.71$

b. $5a + 3b = 7.12$

$$\begin{array}{l}
 NY \rightarrow S \qquad S \rightarrow NY \\
 rt = d \qquad rt = d \\
 \frac{(A-w)6}{6} = \frac{2400}{6} \qquad \frac{(A+w)5}{5} = \frac{2400}{5} \\
 A-w = 400 \qquad A+w = 480 \\
 A = 440 \text{ mi/hr} \qquad W = 40 \text{ mi/hr} \\
 \\
 \begin{array}{r}
 A-w = 400 \\
 A+w = 480 \\
 \hline
 2A = 880 \\
 \frac{2A}{2} = \frac{880}{2} \\
 A = 440
 \end{array}
 \end{array}$$

$$\begin{array}{l}
 2(2x - 3y = 14) \rightarrow 4x - 6y = 28 \\
 4x - 5y = 12 \rightarrow \underline{4x - 5y = 12} \\
 -1 \cdot -y = 16 \cdot -1 \\
 y = -16 \\
 2x - 3y = 14 \\
 2x - 3(-16) = 14 \\
 2x + 48 = 14 \\
 \underline{-48 \quad -48} \\
 2x = -34 \\
 x = -17 \\
 \frac{48}{34} \\
 (-17, -16)
 \end{array}$$

Solve the system

$$\begin{array}{l}
 5(3x - 4y = 8) \rightarrow 15x - 20y = 40 \\
 3(5x - 3y = 7) \rightarrow 15x - 9y = 21 \\
 \hline
 3x - 4\left(\frac{-19}{11}\right) = 8 \\
 3x + \frac{76}{11} = 8 \\
 3x = \frac{88}{11} - \frac{76}{11} \\
 \frac{1}{3} \cdot 3x = \frac{12}{11} \cdot \frac{1}{3} \\
 x = \frac{4}{11}
 \end{array}$$

$$\begin{array}{l}
 15x - 11y = 19 \\
 \frac{19}{76} \qquad y = \frac{-19}{11} \\
 \left(\frac{4}{11}, \frac{-19}{11}\right) \checkmark
 \end{array}$$

